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Figure 1A

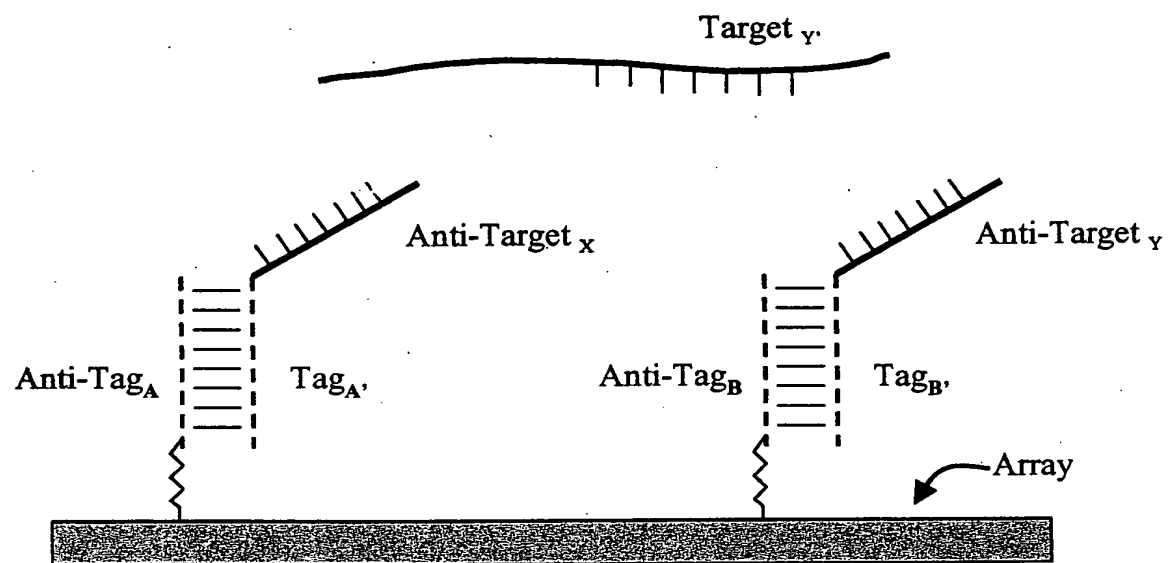


Figure 1B

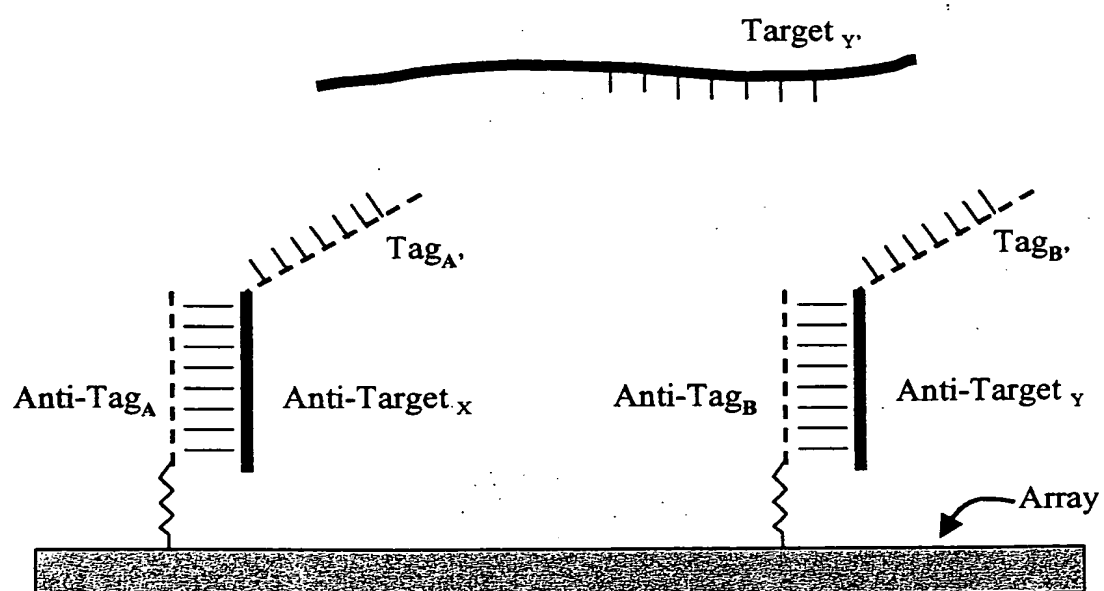


Figure 2

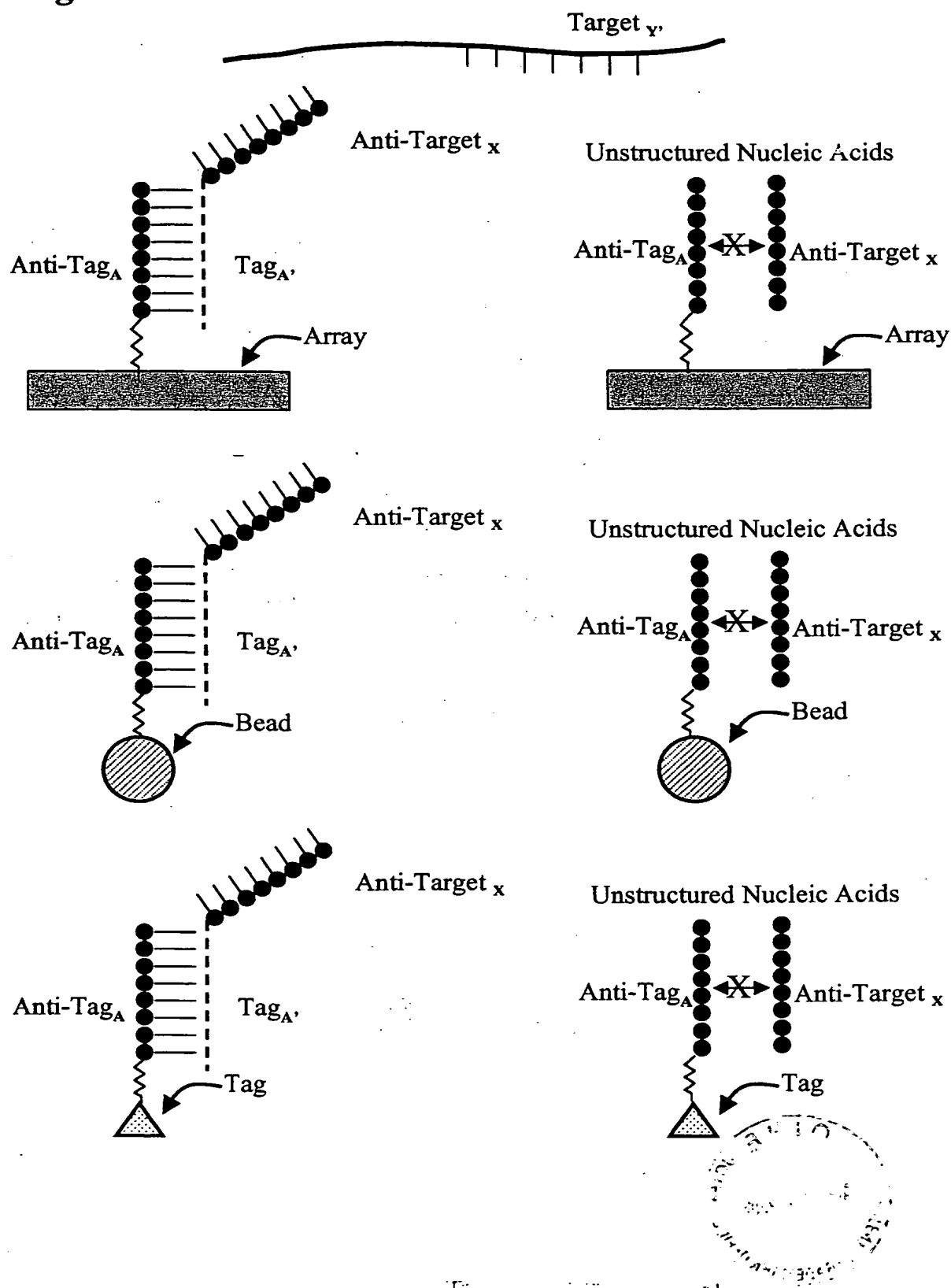
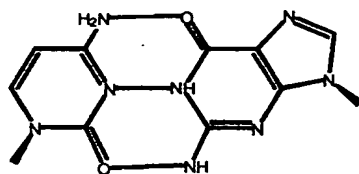
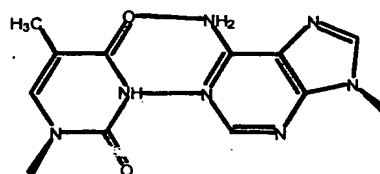


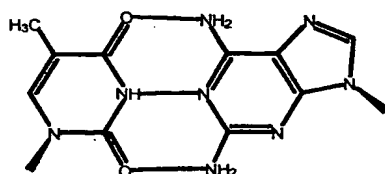
Figure 3



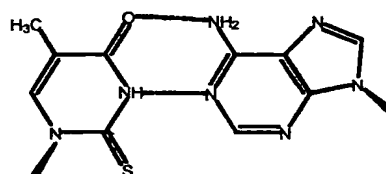
C - G



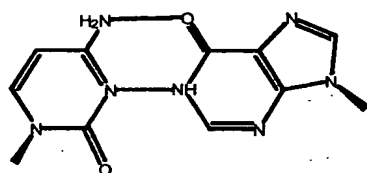
T - A



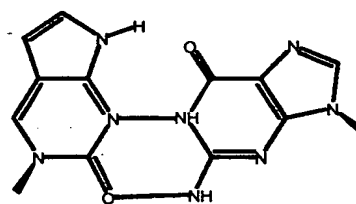
T - 2-aminoA



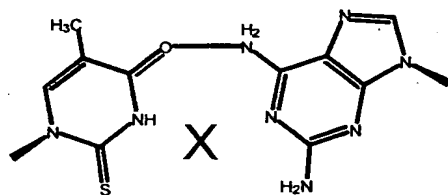
2-thioT - A



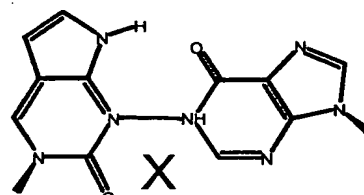
C - I



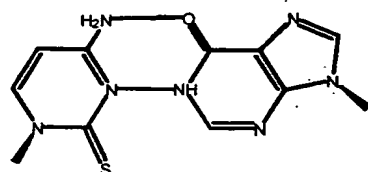
PyrroloPyr - G



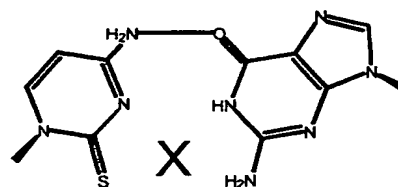
2-thioT - 2-aminoA



PyrroloPyr - I



2-thi C - I



2-thi C - G

Figure 4

A

5' -CGATAGGCTCTG →
3' -GCTATCCGAGACCCTGACTTGACACCTGTT-5'

B

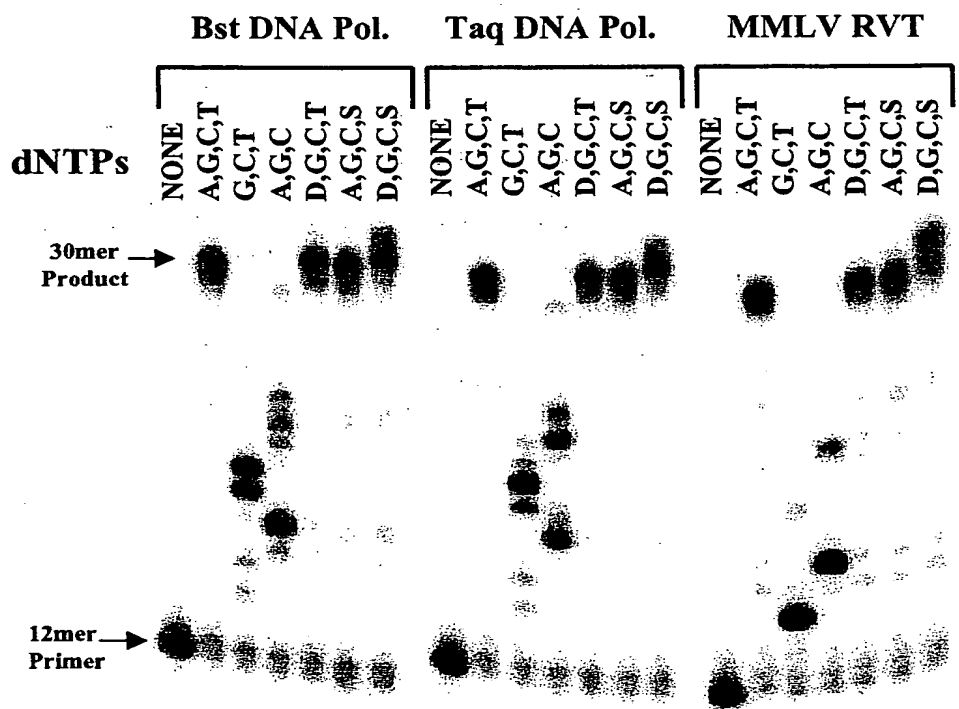
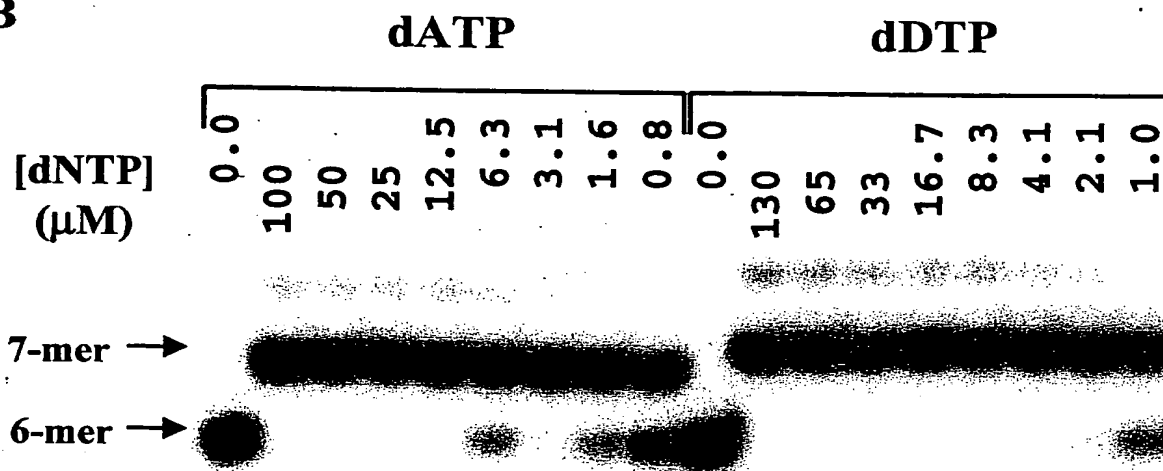


Figure 5

A



B



C

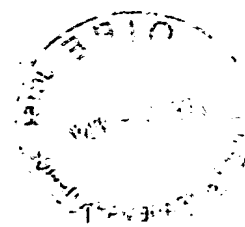
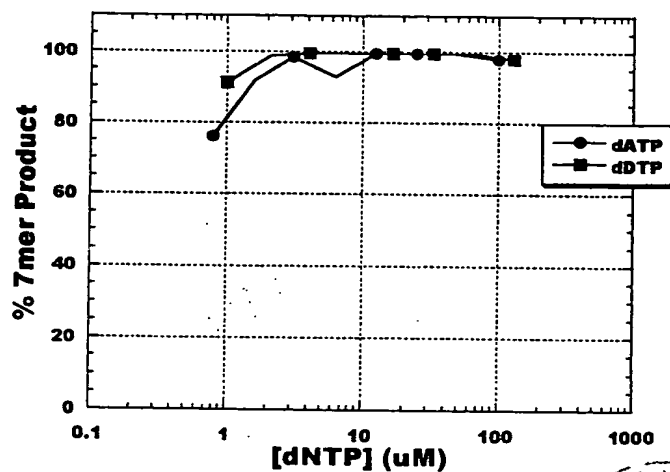
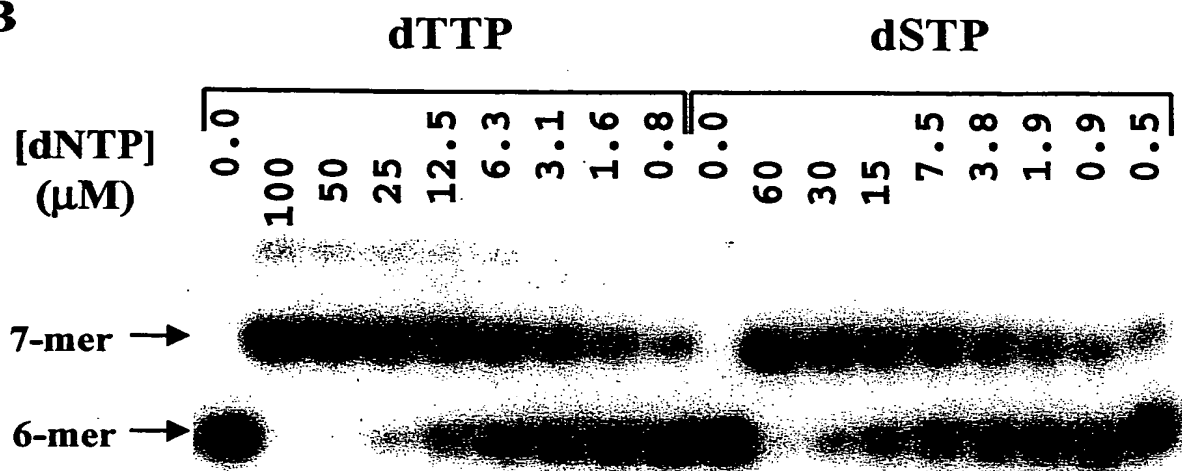


Figure 6

A



B



C

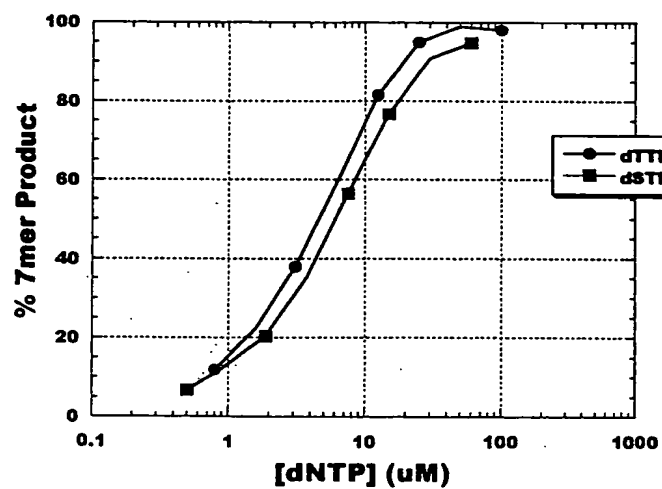
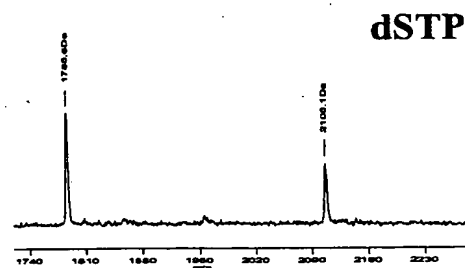
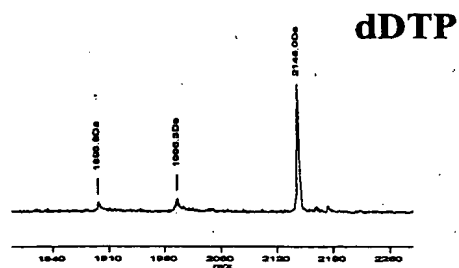
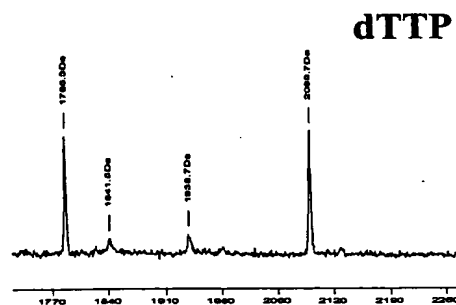
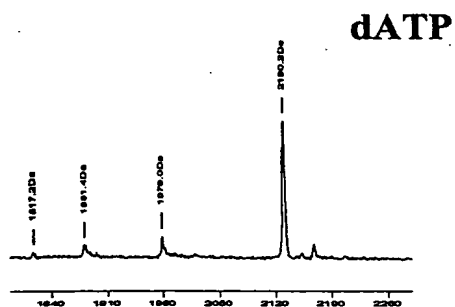


Figure 7

A



B



C

Extension Nucleotide	X-mer	Predicted m/z (Positive Ion)*	Measured m/z (Positive Ion)	Predicted $\Delta m/z$	Measured $\Delta m/z$
None	GACTGA	1816.3	nd	--	--
dATP	GACTGAA	2129.5	2130.2	--	--
dDTP	GACTGAD	2144.5	2146.0	+15.0	+15.8
None	GCTCTG	1783.2	1785.4 + 0.2	--	--
dTTP	GCTCTGT	2087.4	2089.7	--	--
dSTP	GCTCTGS	2103.4	2106.1	+16.0	+16.4

Figure 8

5'-CTATCCGATCCATC→
3'-GATAGGCTAGGTAGTTCAAGTCAGAGCTTTGTCAGAGTTGTAAACAGGTGTCGCATp-5'

↓
dNTPs
Bst DNA Polymerase

5'-CTATCCGATCCATCaagttcagtctcgaaacagtctcaacatttgtccacagcgta
3'-GATAGGCTAGGTAGTTCAAGTCAGAGCTTTGTCAGAGTTGTAAACAGGTGTCGCAT←

↓
λ Exonuclease

5'-CTATCCGATCCATCaagttcagtctcgaaacagtctcaacatttgtccacagcgta-3'

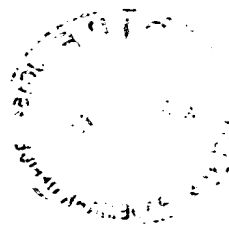
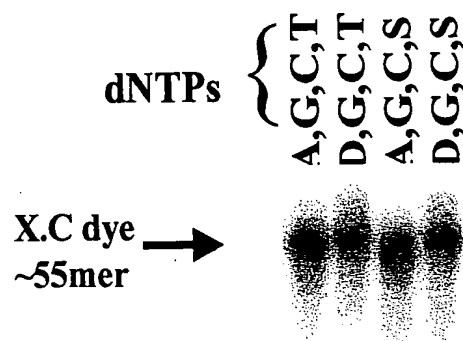


Figure 9



B.P dye →
~12mer

